

ABSTRACT

A computationally efficient channel estimation technique for use within an orthogonal frequency division multiplexing (OFDM) communication system determines coefficients of a channel transfer function by calculating the dot products
5 of a pilot vector and a plurality of interpolation vectors. One dot product is preferably calculated for each subcarrier of interest within the system. The pilot vector is extracted from an OFDM symbol received from a communication channel. In a preferred approach, a number of interpolation vectors are precalculated and stored within a communication device for subsequent use during channel estimation and
10 equalization operations. The technique is highly flexible and can be implemented using, for example, a variable user block size or a variable pilot vector size.

"Express Mail" mailing label number: EL806497041US

Date of Deposit: May 10, 2001

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